

**Notice of Allowability**

Application No.

10/069,783

Applicant(s)

KIM, HEE JUNG

Examiner

Lois Zheng

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed on 12 January 2005.
2. ☒ The allowed claim(s) is/are 1-7.
3. ☒ The drawings filed on 28 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☒ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☒ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gregory Kang on 4 April 2005.

Applicant has agreed to the following modifications to the claims:

1. (Currently amended) An apparatus for preparing sterilizing water comprising an electrolyzer:

wherein an anode chamber (10) and a cathode chamber (20) partitioned by an ion exchange membrane (40) form unit cells (A), is located between said anode chamber (10) and said cathode chamber (20), said unit cells (A) being alternately arranged and brought into close contact with each other;

end plates (60, 70) are placed at an outer surface of a first unit cell and a last unit cells respectively;

water inlets (61, 62) and water outlets (71, 72) are attached to each of said end plates(60,70) of said electrolyzer;

said anode chamber (10) includes an anode plate (11) and said cathode chamber (20) includes a cathode plate (21), said anode plate (11) and said cathode plate (21) have four circulative openings at each corner of which two circulative openings at diagonally opposite positions have [triangle] fan-shaped

Art Unit: 1742

plural passages(12, 22), in order for water introduced through the openings to flow through the passages to [rapidly] pass a surface of each anode plate (11) or cathode plate (21); and

an anode reaction chamber (13) and a cathode reaction chamber (23) are formed by a gap-control gasket (30) and an electrolyte leakage prevention gasket (31) having plurality of horizontal members at a center region.

7. (New) An apparatus for preparing sterilizing water comprising an electrolyzer:

said electrolyzer having a plurality of unit cells (A), each of said plurality of unit cells (A) including an anode chamber (10) and a cathode chamber (20), wherein an ion exchange membrane (40), is located between said anode chamber (10) and said cathode chamber (20), said anode chamber (10) and said cathode chamber (20) being alternately arranged, and said plurality of unit cells (A) being in close contact with each other;

said electrolyzer having end plates (60, 70) located at an outer surface of a first unit cell and a last unit cell, respectively;

said electrolyzer having water inlets (61, 62) and water outlets (71, 72) attached to each of said end plates (60, 70),

wherein said anode chamber (10) includes an anode plate (11) and said cathode chamber (20) includes a cathode plate (21), each of said anode plate (11) and said cathode plate (21) having at least one circulative opening at a corner thereof such that two circulative openings at diagonally opposite positions have a plurality of [triangle] fan-shaped passages (12, 22) in order for water

Art Unit: 1742

introduced through the openings to flow through the passages to [rapidly] pass a surface of each anode plate (11) or cathode plate (21); and

wherein an anode reaction chamber (13) and a cathode reaction chamber (23) are formed by a gap-control gasket (30) and an electrolyte leakage prevention gasket (31) located in said anode chamber (10) and said cathode chamber (20), each gasket having plurality of horizontal members at a center region.

2. Applicant has also agree to the following changes to the specification :

On page 2, line 13, change the first sentence to "The electrolyzer according to the present invention as illustrated in Fig. 1 and Fig. 2 comprises anode chambers (10) and cathode cambers (20) partitioned by ion exchange membrane (40)."

3. The following is an examiner's statement of reasons for allowance:

The prior art fails to teach or suggest, either alone or in combination, the instantly claimed plurality of fan-shaped passages in the electrolyzer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Oath/Declaration***

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not identify the citizenship of each inventor.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Miyamae US 5,474,662 teaches an apparatus for producing electrolyzed water hat is similar to the instant invention. However, Miyamae does not teach the instantly claimed plurality of fan-shaped passages.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LLZ

ROY KING   
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700